

WHAT IS CLAIMED IS:

1. A connector comprising:

a housing having a first interior surface defining a first passage that extends in an axial direction between a first aperture and an intermediate portion of the housing, and a second interior surface defining a second passage that extends in the axial direction between a second aperture and the intermediate portion of the housing; and

a joining member for joining the housing to a second housing, said joining member having an exterior surface,

wherein said first interior surface includes a first mating surface, and said exterior surface includes a second mating surface,

wherein said first and second mating surfaces are configured such that the joining member can be inserted and thereby locked into the first axially extending passage.

2. A connector in accordance with claim 1, wherein said second interior surface includes a threaded surface.

3. A connector in accordance with claim 1, wherein said housing has an extending portion which extends radially from an external side of the housing.

4. A connector in accordance with claim 3, wherein the housing has a plurality of extending portions extending radially therefrom, each extending portion also extending in said axial direction between the second aperture of the housing and the intermediate portion of the housing, wherein said extending portion is one of the plurality of extending portions.

5. A connector in accordance with claim 1, wherein said first mating surface of the housing includes a plurality of protruding portions, each protruding portion extending in a direction perpendicular to said axial direction, each protruding portion having a saw-tooth cross section that is sloped towards the first aperture of the housing and flat towards the intermediate portion of the housing.

6. A connector in accordance with claim 5,
wherein said joining member has a first end and a second end thereof and extends
in a longitudinal direction between said first and second ends thereof, and
wherein said second mating surface includes a plurality of protruding portions,
5 each protruding portion extending in a direction perpendicular to said longitudinal
direction, and each protruding portion having a saw-tooth cross section that is sloped
towards said first end of the joining member and is flat towards said second end of the
joining member.

7. A connector in accordance with claim 6,
wherein the exterior surface of the joining member extends between the first end
of the joining member and the second end of the joining member and includes an
intermediate portion thereof,

5 wherein said second mating surface extends between the first end of the joining
member and the intermediate portion of the joining member,

wherein the exterior surface of the joining member includes a third mating
surface that extends between the second end of the joining member and the intermediate
portion of the joining member, and

10 wherein said third mating surface includes a plurality of protruding portions, each
protruding portion extending in a direction perpendicular to said longitudinal direction,
and each protruding portion having a saw-tooth cross section that is sloped towards the
second end of the joining member and is flat towards the first end of the joining member.

8. A connector in accordance with claim 7,
wherein the first end of the joining member has an aperture formed therein,
wherein the joining member has an internal passage that extends longitudinally
therein from said aperture in the first end of the joining member, and

5 wherein the joining member has a first slot formed therein between the external
surface of the joining member and the internal passage of the joining member, the first
slot extending in said longitudinal direction from the first end of the joining member to a
point beyond the intermediate portion of the joining member.

9. A connector in accordance with claim 8,
wherein the joining member has a second slot formed therein between the
external surface of the joining member and the internal passage of the joining member,
the second slot extending in said longitudinal direction from the first end of the joining
5 member to a point beyond the intermediate portion of the joining member, and
wherein the second slot is diametrically opposed to the first slot.

10. A connector in accordance with claim 9,
wherein the second end of the joining member has an aperture formed therein,
wherein the internal passage of the joining member extends longitudinally
between the aperture in the first end of the joining member and the aperture in the second
5 end of the joining member,

wherein the joining member has a third slot formed therein between the external
surface of the joining member and the internal passage of the joining member, the third
slot extending in said longitudinal direction from the second end of the joining member
to a point beyond the intermediate portion of the joining member,

10 wherein the joining member has a fourth slot formed therein between the external
surface of the joining member and the internal passage of the joining member, the fourth
slot extending in said longitudinal direction from the second end of the joining member
to a point beyond the intermediate portion of the joining member, and

wherein the fourth slot is diametrically opposed to the third slot.

11. A connector in accordance with claim 10, wherein the joining member
has a circular cross section, and wherein the first slot is offset from the third slot by an
angle in a range of 80 degrees to 100 degrees measured from the center of the circular
cross section of the joining member.

12. A connector in accordance with claim 11, wherein the first slot is offset
from the third slot by an angle of 90 degrees measured from the center of the circular
cross section of the joining member.

13. A connector in accordance with claim 5, wherein the first mating surface includes a plurality of protruding portion areas, each protruding portion area extending in said axial direction between the first aperture of the housing and the intermediate portion of the housing, and each protruding portion area also extending in a direction perpendicular to said axial direction,

wherein the first mating surface further includes a plurality of non-protruding areas, and

wherein the protruding portion areas and non-protruding areas are alternately disposed in the direction perpendicular to said axial direction.

14. A connector in accordance with claim 13, wherein the first mating surface has four protruding portion areas and four non-protruding areas,

wherein the first mating surface has a circular cross section, and

wherein each protruding portion area extends over an arc in a range of 40 degrees to 50 degrees from the center of the circular cross section of the housing.

15. A connector in accordance with claim 14, wherein each protruding portion area and each non-protruding area extends over an arc of 45 degrees from the center of the circular cross section of the housing.

16. A connector in accordance with claim 1, wherein the housing is formed from a plastic material selected from a group consisting of polyphthalamide, polybutylene terephthalate, and polyamide 6.6.

17. A connector in accordance with claim 16, wherein said plastic material is polyphthalamide.

18. A connector in accordance with claim 1, wherein said joining member is formed from a plastic material selected from a group consisting of polyphthalamide, polybutylene terephthalate, and polyamide 6.6.

19. A connector in accordance with claim 18, wherein said plastic material is polyphthalamide.

20. A connector in accordance with claim 1, wherein said housing is formed from a mixture which includes a thermoplastic polymer and glass fibers.

21. A connector in accordance with claim 20, wherein the thermoplastic polymer is polyphthalamide.

22. A connector in accordance with claim 20, wherein the glass fibers are a percentage of the mixture in a range of 45% to 55% by weight.

23. A connector in accordance with claim 1, wherein the joining member is formed from a mixture which includes a thermoplastic polymer and glass fibers.

24. A connector in accordance with claim 23, wherein the thermoplastic polymer is polyphthalamide.

25. A connector in accordance with claim 23, wherein the glass fibers are a percentage of the mixture in a range of 45% to 55% by weight.

26. A connector in accordance with claim 1, wherein the housing is formed from two corresponding halves, each provided with mechanical snap fittings to hold the two halves together when assembled.

27. A reinforced concrete sectional pile comprising:
a reinforcing bar molded into a concrete pile section, said reinforcing bar extending in a longitudinal direction;
a housing provided on an end of the reinforcing bar, said housing having a first interior surface defining a first passage that extends in said longitudinal direction between a first aperture and an intermediate portion of the housing, and a second interior surface defining a second passage that extends in said longitudinal direction between a

second aperture and the intermediate portion of the housing,

wherein the end of the reinforcing bar is disposed within the second passage of
10 the housing; and

a joining member for joining the housing to a second housing, said joining
member having an exterior surface,

wherein said first interior surface includes a first mating surface, and said exterior
surface includes a second mating surface,

15 wherein said first and second mating surfaces are configured such that the second
member can be inserted and thereby locked into the first passage.

28. A connector in accordance with claim 27, wherein the housing has an
extending portion which extends radially from an external side of the housing.

29. A connector in accordance with claim 28, wherein the external side of the
housing has a plurality of extending portions extending radially therefrom, each
extending portion also extending in said longitudinal direction between the second
aperture of the housing and the intermediate portion of the housing, wherein said
5 extending portion is one of the plurality of extending portions.

30. A connector in accordance with claim 27, wherein the first mating surface
includes a plurality of protruding portions, each protruding portion extending in a
direction perpendicular to said longitudinal direction, each protruding portion having a
saw-tooth cross section that is sloped towards the first aperture of the housing and flat
5 towards the intermediate portion of the housing.

31. A connector in accordance with claim 30,
wherein the joining member has a first end and a second end thereof and extends
in an axial direction between said first end and said second end, and

wherein the second mating surface includes a plurality of protruding portions,
5 each protruding portion extending in a direction perpendicular to said axial direction, and
each protruding portion having a saw-tooth cross section that is sloped towards the first
end of the joining member and is flat towards the second end of the joining member.

32. A connector in accordance with claim 27, wherein the housing is formed from a mixture which includes a thermoplastic polymer and glass fibers.

33. A connector in accordance with claim 32, wherein the thermoplastic polymer is selected from a group consisting of polyphthalamide, polybutylene terephthalate, and polyamide 6.6.

34. A connector in accordance with claim 27, wherein the joining member is formed from a mixture which includes a thermoplastic polymer and glass fibers.

35. A connector in accordance with claim 34, wherein the thermoplastic polymer is selected from a group consisting of polyphthalamide, polybutylene terephthalate, and polyamide 6.6.